

REMARKS:

1) With regard to Form PTOL-326 (Office Action Summary), the Examiner is respectfully requested to indicate whether the originally filed drawings are accepted or objected to.

2) The new claims 16 to 31 are based on the original claims and original disclosure as follows:

New Claims	16	17	18	19	20	21	22	23
Orig. Claims & Disclosure	1,12,14 + Spec p. 10 lines 5 to 27	2	3	4	5	6	7	8

New Claims	24	25	26	27	28	29	30	31
Orig. Claims & Disclosure	9	10	11	13	Fig. 4	Fig. 4	Fig. 4	Fig. 4 and pg 7

The new claims 16 to 31 do not contain any new mater. The editorial revisions in the specification are supported by the original context and by the original disclosure of Fig. 4. These revisions do not contain any new matter.

3) Claims 6 and 13 stand withdrawn from consideration. However, new claims 21 and 27 are based respectively on claims 6 and 13. These claims 21 and 27 have been included in the set of new claims as set forth above based on the statement on page 2 section 1 of the Office Action that the Examiner will automatically rejoin the withdrawn claims if and when a generic claim is allowed. It is respectfully submitted that claim 16 is a generic claim and additionally is patentable for the following reasons.

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- 4) The rejection of claims 1 to 5, 7 to 12 and 14 to 15 under 35 USC § 112(2) is respectfully traversed. A proper transition between the preamble and the characterizing clause has been introduced in claim 16 line 5. The term "preferably" has been avoided in the new claims. The term "prism" has been avoided altogether and replaced by the term "wedge shaped sectional configuration". Withdrawal of the rejection on formal grounds under 35 USC § 112(2) is respectfully requested.
- 5) Referring to the present disclosure of page 10 lines 3 to 27, it is the aim of the invention, among others, to shape the two flaps 1 and 3 so that "motions of the flaps shall not adversely influence the LAVAL shape of the overlap area so that the at least sonic or preferably supersonic speed of the exiting airstream 51 is not adversely influenced. Motions of the flaps relative to each other primarily vary the cross sectional area of the nozzle neck but the LAVAL nozzle configuration is maintained for motions of the flaps within the above mentioned range that is sufficient for all practical purposes to prevent flow separation from the first and second surfaces, ...". New independent claim 16 defines the structural features which in combination assure that the facing surfaces 11 and 15 facing each other along an overlap area and the nozzle inlet and nozzle neck forming flap surfaces maintain the nozzle configuration within a given flap motion control range. The diverging nozzle portion downstream of the nozzle neck has a sufficient nozzle length, due to the overlap area, in an outward airflow direction to thereby reduce

vortex and airflow separation in all controllable flap positions at sonic and supersonic air discharge speeds. The prior art taken singly does not show such features. Taken in combination, the prior art does not suggest such features.

- 6) More specifically, the prior art does not disclose an air discharge valve configuration as now more clearly claimed in new independent claims 16 and 30 and in the claims 17 to 29 dependent on claim 16 and in claim 31 dependent on claim 30.
- 7) The rejection of claims 1 to 5, 8 to 11, 14 and 15 under 35 USC § 102(b) as being anticipated by US Patent 1,810,693 (Alfaro) is respectfully traversed for the following reasons. Alfaro's airflow control openings such as 2, 3 and 4 in Fig. 5 of Alfaro are installed in an aircraft wing and not in an aircraft body. Further, new claim 16 clearly refers to the first and second flaps 1 and 3 as being pivotable as suggested in the second paragraph on page 5 of the Office Action where it is stated that the Examiner would withdraw the rejection in view of Alfaro if applicant should amend the claims so that the first and second flaps are capable of pivoting. The arrangement of different flaps in the upper surface of an aircraft wing does not deal with pressure differentials that occur in the control of the cabin pressure of an aircraft, because pressure differentials on a wing of an aircraft are substantially lower than the super critical pressure ratios that are involved in the cabin pressure control. Alfaro also does not teach any outflow with a sonic or supersonic air discharge speed. Thus, Alfaro cannot anticipate the claims

16 to 31 as now set forth above. A movable flap in an aircraft wing does not anticipate two movable flaps in the skin of an aircraft body where the two flaps in the aircraft body maintain a nozzle configuration throughout a given nozzle motion or rather flap motion control range as now more clearly defined by the structural features in new claim 16.

- 8) Withdrawal of the rejection of claims 1 to 5, 8 to 11, 14 and 15 as being anticipated by Alfaro is respectfully requested.
- 9) With regard to the assertion in the third paragraph on page 5 of the Office Action that Alfaro's first and second flaps overlap, Alfaro does not disclose that a nozzle configuration should be maintained in all flap positions within a given control range as now more clearly defined in new claim 16. Applicants are not claiming a flap overlap per se but rather the combination of structural features set forth in new claim 16. These combined features maintain the nozzle configuration throughout a given flap motion control range. Alfaro clearly does not show any such combination and therefor cannot anticipate claim 16 and the claims remaining dependent under claim 16 namely claims 17 to 29.
- 10) The remarks regarding claims 2, 3, 4 and 5, now claims 17, 18, 19 and 20 are respectfully traversed. The position of the first and second flaps for tilting about first and second journals so that the nozzle neck is maintained open is considered a structural feature. Similar considerations apply to claim 19. The position of the journals 2 and 4 and their spacing from each other are

structural features. Similar considerations apply to claim 20 defining the position of the nozzle neck. Withdrawal of the rejection of claims 2, 3, 4 and 5 under 35 USC § 102(b) is respectfully requested.

- 11) The rejection of claims 8, 9 and 10 as being anticipated by Alfaro is respectfully traversed. Alfaro does not show an aircraft body at all. His invention relates to controlling the relatively low suction on the upper surface of an aircraft wing. It is improper to call the wings of an aircraft the body. Claim 16 clearly defines that the aircraft body has an outer skin with an opening in the outer skin wherein the air discharge valve is installed. Withdrawal of the rejection of the claims 8, 9 and 10 as being anticipated by Alfaro is respectfully requested.
- 12) The forgoing remarks in the preceding paragraph also apply to claim 11 which is now claim 26. Claim 26 clearly positions the first and second flaps relative to the aircraft body not relative to an aircraft wing. Alfaro does not disclose anything in this respect.
- 13) The rejection of claim 7, now claim 22 under 35 USC § 103(a) as being unpatentable in view of Alfaro taken in the light of Rhines US Patent 3,387,804 is respectfully traversed. Claim 22 makes it clear that the first and second facing surfaces (11', 15') of the first and second valve flaps are concavely curved around said airflow direction AFD. The airflow direction is defined in claim 16. In present Fig. 5 the airflow direction extends

perpendicularly to the plane defined by the drawing sheet. The Office Action refers to Fig. 1 of Rhines as showing that it is well known to use concave shapes to make facing surfaces. However, all surfaces visible in Fig. 1 of Rhines appear to be convex rather than concave when viewing the aircraft from its outside rather than from the inside. On the other hand, Fig. 2 of Rhines shows concave surfaces 31 and 32 which are intended to change the flow direction of the airmass flow. A nozzle is at best formed only for a single flap position of the two flaps 14 and 16 relative to each other. Furthermore, the concave surfaces 31, 32 have a curvature axis that extends perpendicularly to the flow direction rather than in the flow direction. The present concave flap curvature has a curvature axis that extends in the flow direction rather than perpendicularly thereto as shown at 31, 32 of Rhines. This direction of the curvature around the flow direction is now more clearly defined in claim 22. Therefore, using the surfaces 31 and 32 as disclosed by Rhines in the disclosure of Alfaro, would not make a suggestion to the features of claim 22. Withdrawal of the rejection of claim 7 (now claim 22) under 35 USC § 103(a) is respectfully requested.

- 14) The rejection of claim 12 under 35 USC § 103(a) as being unpatentable over Alfaro taken in the light of US Patent 3,740,006 (Maher) is respectfully traversed. The features of claim 12 are now incorporated in new independent claim 16. Claim 16 defines that both the first and second pivotable valve flaps (1, 3) have a wedge shape sectional configuration with a rounded leading edge (8, 9). No such structure is shown by Maher. The

second outboard gate 14 of Maher clearly does not have a wedge shaped cross sectional configuration much less a rounded leading edge. The "outward end 24 of the outward gate 14" is not a leading edge. The position of the "outward end (24)" is such that it can cause vortices in the outward air flow, which the invention avoids. The inner gate 28 does not have a wedge shaped configuration. Even if it has a wedge shape for argument's sake, the tip 22 of the wedge faces opposite the flow direction. In the present valve the thick rounded edges of the flaps face opposite the flow direction for avoiding vortices in the air outflow. Therefore, combining the two references Alfaro and Maher, would not suggest the combination of features now more clearly defined in independent claim 16.

- 15) The added new claims 28 and 29 are supported by the original disclosure of present Fig. 4. Added independent claim 30 is supported by the disclosure of original Fig. 4 and page 10 of the present specification. Added claim 31 which is dependent from claim 30 is supported by Fig. 4 and the specification page 7 lines 5 to 8. In view of the reasons elaborated above, the references taken singly do not show any of the features defined in added claims 28, 29, 30 and 31. The references taken in combination also do not suggest the features now more clearly set forth in claims 28, 29, 30 and 31, also for the above reasons.

**[RESPONSE CONTINUES ON NEXT PAGE]**

- 16) Favorable reconsideration and allowance of the application, including all present claims 16 to 31, are respectfully requested.

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Enclosures:  
Transmittal Cover Sheet,  
Term Extension Request,  
Form PTO-2038

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